



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,370	02/28/2002	Michael E. Childs	1528.005US1	2692

21186 7590 04/22/2005

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
P.O. BOX 2938  
MINNEAPOLIS, MN 55402-0938

EXAMINER

MANCHO, RONNIE M

ART UNIT . PAPER NUMBER

3663

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/086,370

Applicant(s)

CHILDS ET AL.

Examiner

Ronnie Mancho

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 25-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 25-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-2, 6-12, 25-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Ito et al (6484093).

Regarding claim 1, Ito et al (fig. 1; col. 7, lines 1-50) disclose a navigation navigational device 100, comprising:

a processor 101;

a memory 30 in communication with the processor 101 (fig. 1);

a display 106 in communication with the processor 101, wherein the device uses the memory 30 in cooperation with the processor 101 to compress a plurality of coordinate data (col. 7, lines 30-45; fig. 4) and associate at least a portion of activation data with each coordinate data ((col. 7, lines 30-45; figs. 13, etc), each coordinate data

Art Unit: 3663

having three or more dimensions (col. 8, lines 36-47: Note that all GPS data inherently have three or more coordinate representation of positions), and wherein at least a portion of the coordinate data is dynamically communicated to the display (106; col. 7, lines 30-65; col. 11, lines 59 to col. 12, lines 1-5).

Regarding claim 2, Ito et al disclose the device of claim 1, further comprising an interface device operable to audibly communicate at least a portion of the coordinate data.

Regarding claim 6, Ito et al disclose the device of claim 1, wherein at least one of the dimensions is associated with attribute data relating to at least one of the other dimensions (col. 8, lines 36-47. Note that all GPS data inherently have three or more coordinate representation of positions).

Regarding claim 7, Ito et al disclose the device of claim 1, wherein the device is a handheld portable device.

Regarding claim 8, Ito et al disclose the device of claim 1, wherein the memory 30 is remote from the processor 101.

Regarding claim 9, Ito et al (fig. 1; col. 7, lines 1-50) disclose a navigation system, comprising:

- a mass storage device 30 adapted to store navigation data;

- a server (portable communications systems nowadays use internet; col. 7, lines 7-12) adapted to communicate with the mass storage 30; and

- a navigation device 100 adapted to communicate with and retrieve navigation data from the server via a communication channel (fig. 1), wherein the navigation device includes a processor 101 in communication with a memory 102B, wherein the processor

Art Unit: 3663

and memory cooperate to compress at least three dimensional data (col. 8, lines 36-47.

Note that all GPS data inherently have three or more coordinate representation of positions) associated with the navigation data and activation data associated with the at least three dimensional data col. 7, lines 30-65; col. 11, lines 59 to col. 12, lines 1-5).

Regarding claim 10, Ito et al disclose the system of claim 9, wherein the communication channel includes a wireless channel.

Regarding claim 11, Ito et al (inherently) disclose the system of claim 9, wherein the activation data are configurable to activate or deactivate each dimension within the at least three dimensional data of the navigation data.

Regarding claim 12, Ito et al disclose the system of claim 11, wherein the navigation data are compressed within the memory.

Regarding claim 25, Ito et al disclose a navigational device, comprising:

a memory;

a display;

a processor that cooperates with the memory to compress navigation data having three or more dimensions wherein the navigation data includes control data and coordinate data; and

a Global Positioning Satellite (GPS) receiver that cooperates with the processor and provides to the processor specific values for coordinate data, wherein the processor matches the values with portions of the compressed navigation data using the control data and dynamically decompresses those matched portions and communicates the decompressed matched portions to the display.

Art Unit: 3663

Regarding claim 26, Ito et al disclose the navigational device of claim 25, wherein the navigation device is a portable digital assistant.

Regarding claim 27, Ito et al disclose the navigation device of claim 25, wherein the navigation data includes attribute data within one or more of the three or more dimensions, and wherein the attribute data drives presentation effects of the decompressed matched portions on the display.

Regarding claim 28, Ito et al disclose the navigation device of claim 25, wherein the navigational device transmits the decompressed matched portions to an external device.

Regarding claim 29, Ito et al disclose the navigational device of claim 25, wherein each of the three or more dimensions include cartographic data.

Regarding claim 30, Ito et al disclose the navigational device of claim 25, wherein the decompressed match portions represent in least in part a current position of the device within a route that the device is traveling along.

Regarding claim 31, Ito et al disclose the navigational device of claim 25 further comprising an audio device in cooperation with the processor, wherein the audio device communicates at least a part of the decompressed matched portions audibly.

Regarding claim 32, Ito et al disclose the navigational device of claim 25 wherein at least one of the three or more dimensions associated with the decompressed matched portions includes landmark data proximate to the navigational device.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al in view of Robinson et al (5995970).

Regarding claim 3, Ito et al disclose the device of claim 1, but did not disclose a delta size associated with an optimal size. However, Robinson et al (abstract; col. 1, lines 38-60; claim 1) disclose a storage medium for storing navigational data, wherein each dimension of coordinate data includes a delta size associated with an optimal size to pack i.e. compress each coordinate data.

Therefore, it would have been obvious to one of ordinary skill in the art of navigation to modify the Ito device as taught by Robinson for the purpose of saving memory space when storing navigation data.

Regarding claim 4, Ito et al (col. 1, lines 62-67) disclose the device of claim 3, wherein at least one of the coordinate data exceed the delta size associated with compressing the at least one coordinate data and wherein associating one or more special data ensures the at least one coordinate data are compressed within the delta size associated with the coordinate data.

Regarding claim 5, Ito et al disclose the device of claim 4, wherein:

each dimension is associated with a direction; and

Art Unit: 3663

if each direction within each dimension of each associated coordinate data proceeds in a same direction then using a single sign data (col. 2, lines 4-12) for each dimension to compress each coordinate data.

### ***Response to Arguments***

5. Applicant's arguments filed 1/24/05 have been fully considered but they are not persuasive for the following reasons:

The applicant is arguing that Ito does not disclose compression and decompression. The examiner respectfully disagrees. Applicant's arguments have no basis since the applicant gave no reason why the teaching of storage of data in the Ito disclosure does not imply data compression. Ito does not have to use the exact words that the applicant uses, but is only required to teach the limitation in the claim. In Ito fig. 4, it <sup>can</sup> ~~can~~ be clearly seen data in fig. 4a and be are compressed/decompressed.

The applicant argues that the applicant is not required to prove the negative. The examiner does not understand what the applicant is talking about. A legitimate question was asked for the applicant to explain why he believes Ito does not disclose compression even though Ito discloses storage of bits of data and division of a length of bits of data and removing unneeded patterns of repeat data. The applicant failed to respond to the question and did not provide any proof to substantiate his arguments.

Then the applicant points to Ito fig. 4 to support his position that Ito does not disclose compression. The applicant cites that Ito adds a header to a data structure and by so doing Ito is expanding data and not compressing data. If this is the case according to applicant's, then one should also conclude that Ito also discloses compression since the



Art Unit: 3663

applicant admitted that Ito disclose data division. That is since the stream of data transmitted in Ito is divided into shorter lengths, Ito has in fact reduced the size of the data to be transmitted in a given space of time and later stored. Thus Ito, according to applicant's definition of adding and reducing data to be transmitted, at least disclose compression.

To clear up the murky water here, the examiner has provided applicant with a scientific definition of data compression from two different sources, namely: Dictionary of computers, information processing, and Telecommunications by John Wiley & sons, 1984; Microsoft Press Computer Dictionary by Microsoft Corporation, 1997.

In column 10, lines 11-39, Ito indicates that data representing a whole road in prior art systems is transmitted by a host to a vehicle for storage and navigation. When the prior art vehicle is in an area where communication is lost between the vehicle and the host the data transmitted to the prior art vehicle at that time is also lost since the communication ceased. Then when the prior art vehicle goes to another area where communication is reestablished, the host has to retransmit the data of the whole road again to the vehicle. Ito notices that the retransmission of the same data over and over again constitutes redundancy, wherein a lot of storage space is consumed in the memory of the vehicle storing repeated and unnecessary data of a road section over and over again. To solve the problem mentioned above, Ito segmented the road data before it is transmitted to the vehicle. Meaning that only segments of the road are transmitted at a time hence reducing the communication bandwidth needed to transmit the data of the road as a whole. In this manner, when communication is lost between the host and the vehicle, the host vehicle can be guided along the route segments that have been

Art Unit: 3663

transmitted to the vehicle before interruption of communication. Then when the vehicle regains communication with the host vehicle, the host does not retransmit data covering the whole road, but only data representing the road segment that was not received.

Therefore, it can be seen here that Ito has reduced the size of data to be transmitted to the host and to be stored in the memory in the vehicle. Thus, Ito has reduced the bandwidth that would have been required to transmit data representing the road as whole. Ito also reduced the amount of space required to store data representing the road as whole since the data stored in the memory representing the road is not repetitive or redundant.

Repetitive data takes lots of space and is not necessary. Therefore Ito without doubt disclose data compression as accepted in the art of digital communication. To support the position of Ito, the examiner has provided definitions from two different dictionaries of science which define data compression in the manner described by Ito.

Since the scientific definition of data compression is consistent with the disclosure of data compression by Ito, it is therefore strongly believed that Ito disclose data compression.

Therefore, the rejection is proper and stands.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 3663

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

*Communication*

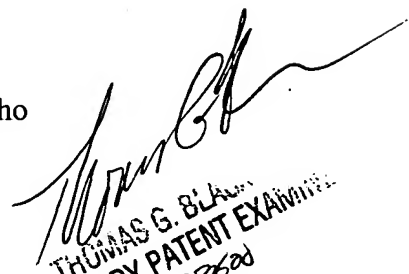
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 571-272-6984. The examiner can normally be reached on Mon-Thurs: 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Ronnie Mancho  
Examiner  
Art Unit 3663

4/15/04

  
THOMAS G. BLACK  
SUPERVISORY PATENT EXAMINER  
GROUP 262d